

Microscopy & Microanalysis 2010

M&M 2010
August 1-5 • Portland, OR

Deadline for Paper Submissions:
February 15, 2010

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Program Details
Awards Information
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Portland & Hotel
Information

Opening Plenary Session

Monday, August 2, 2010

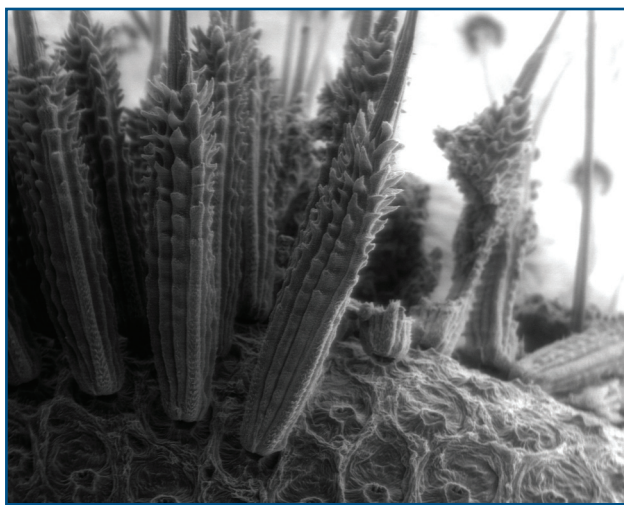
Oregon Convention Center – Oregon Ballroom

KEYNOTE SPEAKER:

Dr. Mark Welland, University of Cambridge, UK

“What Microscopy Can Tell Us about Alzheimer’s and Related Diseases”

Dr. Welland’s talk will focus on the ability of scanned probe techniques to quantify the properties of materials at the nanoscale. In particular, it will demonstrate how structural properties of protein aggregates, such as those deposited during diseases such as Alzheimer’s, provide a basis for the elucidation of the underlying physical principles that characterize the progression of, and challenges in, treatment of Alzheimer’s and related diseases.



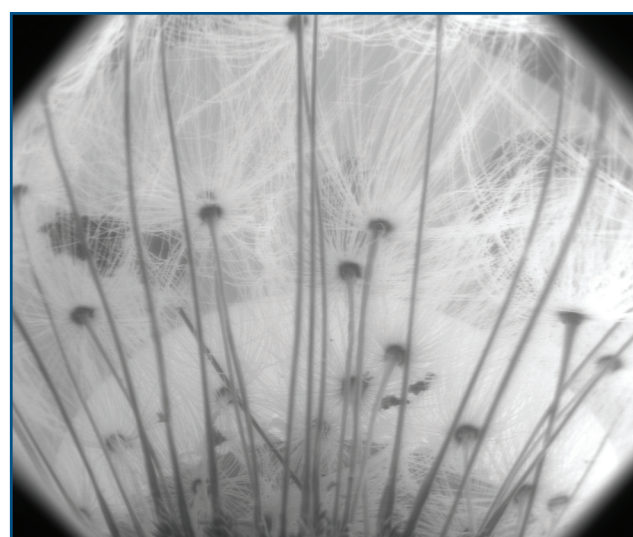
Environmental scanning electron microscope image of a group of achenes and the pericarp of a dandelion seed head. Image by John Mansfield.

Biological Sciences Symposia

- George E. Palade Memorial Symposium
- Imaging of Cytoskeletal Dynamics and Abnormalities in Disease
- Microscopy Continues to Lead Advances in Alzheimer’s Disease
- Man, Machine, Microscope
- Microfluidic Devices: Emerging Platforms for Live Cell Microscopy
- 3DEM: Cellular, Bacterial and Viral surfaces: What Is Out There?
- Clinical and Investigative Microscopy of Infectious Diseases

Physical Sciences Symposia

- Nanoscale Characterization of Next-Generation Photovoltaic Devices and Materials
- Imaging and Spectroscopy of Interfaces and Surfaces in Advanced Materials and Nanostructures
- Microscopy and Analysis in Forensic Science
- Structural and Chemical Analysis of Materials in the Nuclear Power Industry
- Particles, Pores and Composites - Nano to Macro
- Probing the Properties of Nanomaterials with Microscopy
- T3DEM: Quantitative Analysis at the Nano and Microscale using Tomographic Techniques
- Inside Modern Micro-devices at the Atomic Scale



Instrumentation and Techniques Symposia

- Vendor Symposium: Creating the Tools for Science
- Aberration-Corrected Electron Microscopy: Exploring Materials Through New Eyes
- FIB Science and Applications in Materials and Biology
- Computational Aspects of Data Visualization and Quantitative Microscopy and Microanalysis
- Transmission EM and Spectroscopy at or Near Realistic Conditions
- Surface Microscopy and Microanalysis in Materials and Biological Systems
- Scanned Probe Microscopies: Probing Advanced Material Properties on the Micro- and Nano-Scale
- Ultrafast EM and the Effects of Ultrafast Events on the Structure and Chemistry of Materials
- TEM Phase Contrast Imaging in Biological and Materials Science
- Imaging Fields with Holography
- Slow Electrons, Fast Ions: How Well Do We Image and What Do We Image With Scanning Beam Microscopy?
- Microscopy, Microanalysis and Image Analysis in the Pharmaceutical Sciences
- Specimen Preparation for SEM and EBSD
- Image Analysis & Quantitative Microscopy
- Failure Analysis: Practical Microscopy, Metallography and Fractography from Real World Applications or Research Case Studies
- Scanning Cathodoluminescence Microscopy and Spectroscopy: New Developments and Applications
- 3DEM: A Real Bridge Between Light and X-Rays
- Compositional X-Ray Imaging

Technologists’ Forum

- Platform Session: Imaging Biomaterials
- Special Topics: Materials Characterization of Nanomaterials: Health and Environmental Impact
- Roundtable: Live Cell Fluorescence Imaging: Selecting Equipment and Designing Experiments

Environmental scanning electron microscope image of the pappus of a number of dandelion seeds. Image by John Mansfield.

Biological Science Tutorials

- Cryo-HRSEM Techniques for Biological and Soft Materials Specimens
- Focused Ion Beam Techniques in Biology

Physical Science Tutorials

- EELS & EFTEM Imaging: Instrumentation, Applications and Artifacts
- Principles and Practice of HREM and HAADF Imaging

In-Week Intensive Courses (additional fee required)

Yes, you can have it all! Four afternoons (16 hours) of workshop instruction combine with the regular meeting content. It’s an unparalleled educational experience. In the morning, go to sessions and exhibits, see poster displays, and take advantage of all the professional networking opportunities. In the afternoon, participate in a top-notch, multi-day intensive workshop with renowned experts. (Each course registration includes a FULL meeting registration to M&M 2010.)

Selection one of the following three (3) topics:

- Basic Confocal Light Microscopy
- Introduction to SEM Imaging and X-ray Compositional Analysis
- Nanomaterial Microscopy & Microanalysis: Tools and Preparation

Sunday Short Courses (additional fee required)

Sunday, August 1; 8:30 AM – 5:00 PM

- Cryo-preparation for TEM
- Immunolabeling Technology for Light and Electron Microscopy
- 3D Electron Microscopy of Macromolecular Assemblies
- Live Cell Imaging Using Fluorescence Methods
- Electron Tomography in Life and Material Sciences
- Scientific Digital Imaging: Ethics and Execution
- Imaging and Analysis with Variable Pressure or Environmental SEM
- Scanning Cathodoluminescence Microscopy and Spectroscopy
- Advanced Focused Ion Beam Methods
- High-Resolution TEM and STEM
- Microstructural Analysis Techniques and Interpretation for Electronic Devices
- Microscopy & Nanomechanical Characterization

Other Educational Opportunities

- Learn to See with the Private Eye: A Project MICRO Workshop for Attendees and Teachers
- Microscopy in the Classroom: How to Use It and How to Teach It
- It’s a Family Affair! Microscopy & Science for Children of All Ages

2010 Program Chair – John Mansfield: MM2010ProgramChair@microscopy.org
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